Reply to Office Action of January 17, 2007

## **AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A 2-substituted pyrimidine of the formula I

$$R^1$$
  $N$   $R^2$   $L_n$   $R^4$   $N$   $R^3$ 

in which the index and the substituents are as defined below:

- n is an integer from 1 to 5, where at least one substituent L is located in the ortho-position on the phenyl ring;
- L is halogen, cyano, cyanato (OCN), nitro, C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>2</sub>-C<sub>10</sub>-alkenyl, C<sub>2</sub>-C<sub>10</sub>-alkynyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, -C(=O)-A, -C(=O)-A, -C(=O)-N(A')A, C(A')(=N-OA), N(A')A, N(A')-C(=O)-A, N(A'')-C(=O)-N(A')A, S(=O)<sub>m</sub>-A, S(=O)<sub>m</sub>-O-A or S(=O)<sub>m</sub>-N(A')A,

m is 0, 1 or 2;

A, A', A'' independently of one another are hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>2</sub>-C<sub>6</sub>-alkenyl, C<sub>2</sub>-C<sub>6</sub>-alkynyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkenyl, phenyl, where the organic radicals may be partially or fully halogenated or may be substituted by cyano or C<sub>1</sub>-C<sub>4</sub>-alkoxy; or A and A' together with the atoms to which they are attached are a five- or six-membered saturated, partially unsaturated or aromatic heterocycle which contains one to four heteroatoms from the group consisting of O, N and S;

where the aliphatic, alicyclic or aromatic groups of the radical definitions of L for their part may be partially or fully halogenated or may carry one to four groups R<sup>u</sup>:

R<sup>u</sup> is halogen, cyano, C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>2</sub>-C<sub>10</sub>-alkenyl, C<sub>2</sub>-C<sub>10</sub>-alkynyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>2</sub>-C<sub>10</sub>-alkynyloxy, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkenyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkenyloxy, C<sub>3</sub>-C<sub>6</sub>-cycloalkenyloxy, -C(=O)-A, -C(=O)-O-A, -C(=O)-N(A')A, C(A')(=N-OA), N(A')A, N(A')-C(=O)-A, N(A'')-C(=O)-N(A')A, S(=O)<sub>m</sub>-A, S(=O)<sub>m</sub>-O-A or S(=O)<sub>m</sub>-N(A')A, where m, A, A', A'' are as defined above and where the aliphatic, alicyclic or aromatic groups for their part may be partially or fully halogenated or may carry

one to three groups R', R' having the same meaning as R';

R<sup>1</sup>, R<sup>2</sup> independently of one another are C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>2</sub>-C<sub>6</sub>-alkenyl, C<sub>2</sub>-C<sub>6</sub>-alkyl, C<sub>2</sub>-C<sub>6</sub>-haloalkyl, C<sub>3</sub>-C<sub>6</sub>-haloalkyl, C<sub>2</sub>-C<sub>6</sub>-haloalkynyl;

R<sup>2</sup> may additionally be hydrogen;

R<sup>1</sup> and R<sup>2</sup> may also, together with the nitrogen atom to which they are attached, form a saturated or unsaturated five- or six-membered ring which may be interrupted by an ether (-O-), carbonyl C[=O]-, thio

(-S-), sulfoxyl (-S[=O]-) or sulfenyl (-SO<sub>2</sub>-) group;

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R³ is halogen, cyano, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>2</sub>-C<sub>4</sub>-alkenyl, C<sub>2</sub>-C<sub>4</sub>-alkynyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, C<sub>3</sub>-C<sub>4</sub>-alkenyloxy or C<sub>3</sub>-C<sub>4</sub>-alkynyloxy, where the alkyl, alkenyl and alkynyl radicals of R³ may be substituted by halogen, cyano, nitro, C<sub>1</sub>-C<sub>2</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-alkoxycarbonyl;

# R<sup>4</sup> corresponds to one of the formulae

$$\begin{array}{c|c}
R^{c} & \downarrow & \downarrow \\
R^{b} & \downarrow & \downarrow \\
R^{d} & \downarrow & \downarrow \\
R^{d$$

where x is 0 or 1;

R<sup>a</sup>, R<sup>b</sup> and R<sup>c</sup> independently of one another are hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>2</sub>-C<sub>8</sub>-alkenyl, C<sub>2</sub>-C<sub>8</sub>-alkynyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>4</sub>-C<sub>6</sub>-cycloalkenyl,

 $R^a$ ,  $R^b$  together with the nitrogen atom to which they are attached may have the meaning  $R^c$ -Z- $C(R^d)$ =N;

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- Z is oxygen or N-R<sup>e</sup>;
- Y is C(H)-R<sup>e</sup>, C-R<sup>e</sup>, N-N(H)-R<sup>c</sup> or N-R<sup>c</sup>;
- may be a double bond or a single bond;
- R<sup>d</sup>, R<sup>c</sup> have the same meanings as R<sup>c</sup> and may additionally be halogen or cyano;
- R<sup>d</sup> together with the carbon to which it is attached may be a carbonyl group;

where the aliphatic, alicyclic or aromatic groups of the radical definitions of  $R^a$ ,  $R^b$ ,  $R^c$ ,  $R^d$  or  $R^e$  for their part may be partially or fully halogenated or may carry one to four groups  $R^w$ :

- R<sup>w</sup> is halogen, cyano, C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>2</sub>-C<sub>10</sub>-alkenyl, C<sub>2</sub>-C<sub>10</sub>-alkynyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>2</sub>-C<sub>10</sub>-alkynyloxy, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkenyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkenyloxy, and where two of the radicals R<sup>a</sup>, R<sup>b</sup> or R<sup>c</sup> together with the atoms to which they are attached may form a five- or six-membered saturated, partially unsaturated or aromatic heterocycle which contains one to four heteroatoms from the group consisting of O, N and S.
- 2. (Original) The 2-substituted pyrimidine according to claim 1 where R<sup>3</sup> is chlorine, cyano, methyl, ethyl or bromine.

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- 3. (Cancelled)
- 4. (Cancelled)
- 5. (Previously Presented) The 2-substituted pyrimidine according to claim 1 which the phenyl group substituted by  $L_n$  is the group B

$$L^{5} \xrightarrow{L^{4}} L^{3}$$

$$\# \xrightarrow{L^{1}} L^{2}$$

$$B$$

where # is the point of attachment to the pyrimidine skeleton and

- L<sup>1</sup> is fluorine, chlorine, CH<sub>3</sub> or CF<sub>3</sub>;
- L<sup>2</sup>, L<sup>4</sup> independently of one another are hydrogen, CH<sub>3</sub> or fluorine;
- L<sup>3</sup> is hydrogen, fluorine, chlorine, cyano, CH<sub>3</sub>, SCH<sub>3</sub>, OCH<sub>3</sub>, SO<sub>2</sub>CH<sub>3</sub>, NH-C(=O)CH<sub>3</sub>, N(CH<sub>3</sub>)-C(=O)CH<sub>3</sub> or COOCH<sub>3</sub> and
- L<sup>5</sup> is hydrogen, fluorine, chlorine or CH<sub>3</sub>.

Docket No.: 4266-0146PUS1

6. (Withdrawn) A process for preparing 2-substituted pyrimidines of the formula according to claim 3 where R<sup>4</sup> is a pyrazolone, which comprises condensing a compound of the formula II

in which the substituents L, R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are with a 1,3-dicarbonyl compound of the formula III

$$R^{d}$$
  $OR$   $III$ 

in which R is a C<sub>1</sub>-C<sub>6</sub>-alkyl radical, and then cyclizing the resulting compound IV

with a base to give IA

which is, if appropriate, isomerized to give IB

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$$R^{1}$$
 $R^{2}$ 
 $R^{2}$ 
 $R^{3}$ 
 $R^{4}$ 
 $R^{6}$ 
 $R^{6}$ 
 $R^{6}$ 
 $R^{1}$ 
 $R^{2}$ 
 $R^{3}$ 
 $R^{4}$ 
 $R^{5}$ 
 $R^{6}$ 

7. (Withdrawn, Currently Amended) A process for preparing 2-substituted pyrimidines of the formula I according to claim 3 where R<sup>4</sup> is a triazoldione, which comprises acylating a compound of the formula II

$$H_2N$$
 $N$ 
 $N$ 
 $R^3$ 
 $H$ 

in which the substituents L,  $R^1$ ,  $R^2$  and  $R^3$  are with a chloroformic ester of the formula  $CICO_2R$  where the substituent R is  $C_1$ - $C_6$ -alkyl, giving the compound V;

then reacting compound V with a phosgene derivative to give VI,

$$\begin{array}{c|c}
R^{1} & R^{2} \\
RO & N & R^{3}
\end{array}$$

furthermore cyclizing VI with an amine of the formula R°NH<sub>2</sub> or with a hydrazine of the formula R°NH-NH<sub>2</sub> to give compounds ICa and Icb, respectively, and,

if appropriate, reacting further with an alkylating agent of the formula R<sup>a</sup>X, where R<sup>a</sup> is as defined above and X is a leaving group, such as halide or sulfate, to give ICa' and ICb', respectively[[.]]

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8. (Withdrawn, Currently Amended) A process for preparing 2-substituted pyrimidines of the formula I according to claim 3 where R<sup>4</sup> is a triazoldione, which comprises condensing a compound of the formula II

$$H_2N$$
 $N$ 
 $R^1$ 
 $N$ 
 $R^2$ 
 $L_n$ 
 $R^3$ 

according to claim 3 where R4 is a triazoldione, which comprises condensing a compound of the formula H

in which the substituents L,  $R^1$ ,  $R^2$  and  $R^3$  are with an orthoester of the formula  $R^dC(OR^{"})_3$  where the substituent  $R^d$  is as defined above and  $R^{"}$  is  $C_1$ - $C_6$ -alkyl, giving the compound VII;

then acylating compound VII with a chloroformic ester of the formula  $CICO_2R$ ", where the substituent R" is  $C_1$ - $C_6$ -alkyl, to give compound VIII

and furthermore cyclizing VIII with an amine of the formula R°NH2 to give compound ID

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# 9. (Withdrawn) A compound of the formula IV

where the substituents  $R^1$ ,  $R^2$ ,  $R^3$ ,  $L_n$ ,  $R^e$  and  $R^d$  are as defined in claim 1 and the substituent R is a  $C_1$ - $C_6$ -alkyl radical.

### 10. (Withdrawn) A compound of the formula V

where the substituents  $R^1$ ,  $R^2$ ,  $R^3$  and  $L_n$  are as defined in claim 1 and the substituent R is a  $C_1$ - $C_6$ -alkyl radical.

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- 11. (Original) A composition suitable for controlling harmful fungi, which composition comprises a solid or liquid carrier and a compound of the formula I according to claim 1.
- 12. (Withdrawn) A method for controlling phytopathogenic harmful fungi which comprises treating the fungi or the materials, plants, the soil or the seeds to be protected against fungal attack with an effective amount of a compound of the formula I according to claim 1.
- 13. (New) The 2-substituted pyrimidine of claim 1, represented by the formula If

$$R_3^1$$
  $R_3^2$   $R_3^3$   $R_4^3$   $R_5^3$   $R_5^3$   $R_5^4$   $R_5^$ 

14. (New) The 2-substituted pyrimidine of claim 1, represented by the formula Ih

$$H_3C-N$$
 $N$ 
 $N$ 
 $R^1$ 
 $N$ 
 $R^2$ 
 $R^3$ 
 $R^3$ 
 $R^3$ 
 $R^3$ 
 $R^3$ 
 $R^3$ 
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 $R^4$ 
 $R^4$ 

15. (New) The 2-substituted pyrimidine of claim 13, wherein  $L_n$  is 2-fluoro,6-chloro and  $R^3$  is methyl.

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16. (New) The 2-substituted pyrimidine of claim 14, wherein  $L_n$  is 2-fluoro,6-chloro and  $R^3$  is methyl.